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EXAMINER	
UHLIR, NIKOLAS J	

ART UNIT	PAPER NUMBER
1773	12

DATE MAILED: 10/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/914,440	Applicant(s) LEE ET AL.	
	Examiner Nikolas J. Uhlir	Art Unit 1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondenc address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-9 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-9 is/are rejected.

7)☒ Claim(s) 1 is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 11 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

1. This office action is in response to the amendment/arguments dated 5/30/03. The examiner has carefully considered the applicant's submission and has found the applicant's amendment to claim 1 to require a waterborne resin solution that is substantially free of surfactant is persuasive in overcoming the applied prior art. Accordingly, these rejections are withdrawn. Further, applicant's amendments to the claims are sufficient to overcome the prior applied 35 U.S.C 112 rejections. Accordingly, these rejections are withdrawn. However, the case is not in condition for allowance in view of the newly cited prior art.

Claim Objections

2. Claim 1 objected to because of the following informalities: There is a typo in the punctuation in claim 1 at the end of line 12 of the claim (after SnO). Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1, 4, 8, and 9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In the instant case, claim 1 has been amended

to require that the resin solution be substantially free of surfactant. There is no support for this limitation in the specification as originally submitted. Accordingly, this limitation is new matter. Further, claims 4, 8 and 9 have been amended to require that the flake type metallic powder have a length along its longest axis of 0.5-5μm. While the specification does provide support for a particulate having a particle size of 0.5-5μ, with flake type particulate having an average thickness of 0.1-0.5μ (page 9 of the instant specification), the specification as originally filed does not provide support for a flake type filler particle that has a length along its longest axis of 0.5-5μ. Accordingly, this limitation constitutes new matter. Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Odawa et al. (US5753740) further in view of Ogata et al. (US5753740).

7. Claim 1 requires a waterborne resin solution for preparing a resin-coated steel sheet for a fuel tank of an automobile comprising: a first resin solution selected from the group consisting of epoxy resin, urethane resin, and phenoxy resin; melamine resin; colloidal silica; PTFE-based wax; and a least one plate-type metallic powder selected from the group consisting of Al, Zn, Mn, Co, Ni, Sn, and SnO; wherein said waterborne resin solution is substantially free of surfactant and said first resin solution comprises the largest portion by weight of all of the other components individually.

8. Regarding these limitations, Odawa teaches a resin solution which is suitable for coating the interior of automobile fuel tanks (column 30, lines 38-50). In one embodiment, the resin solution is an aqueous solution containing 10-80% by weight of water based polyurethane emulsion (column 5, lines 40-45). The polyurethane emulsion can be of the self-emulsifying type, and thus requires no separate emulsifier (surfactant) (column 18, lines 32-44).

9. Further, the solution contains 3-15 parts by weight of a lubricant, wherein the lubricant is selected from the conventional lubricants including PTFE (column 12, line 44-column 13, line 1 and column 19, lines 52-60).

10. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize PTFE as the lubricant in Odawa, as Odawa recognizes the equivalence of PTFE to the other materials listed as suitable for this purpose.

11. Odawa further teaches that the resin composition additionally contains finely divided silica, such as colloidal silica as a rust preventative pigment (column 11, lines 5-12, column 19, lines 1-47). The amount of silica is 1-40 parts by weight based on the weight of the solution. Further, a melamine compound such as a melamine resin (column22, line 11-18) can be added to the solution. The proportion of melamine compound/resin added to the base resin is 3:7 based on the weight of the solids in the solution weight (column 8, lines 55-65).

12. Odawa does not teach adding a flake type metal powder selected from the group consisting of Al, Zn, Mn, Co, Ni, Sn, and SnO to the solution, as required by claim 1.

13. However, Ogata teaches that by adding a metal powder to a resin that is utilized for coating the fuel tank of an automobile, resistance weldability can be imparted to the sheet (column 6, lines 58-60). Ogata specifically teaches that adding 30-110 parts by weight of Al or Ni flake to the base resin is suitable for this purpose (column 7, lines 60-65).

14. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to add 1-40 parts by weight Al or Ni flake to the aqueous polyurethane solution taught by Odawa.

15. One would have been motivated to make this modification so as to impart resistance weldability to the coating taught by Odawa.

16. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogata et al. (US6235407) in view of Odawa et al. (US5753740), further in view of Suzuki et al. (S5330850) and Pfeil et al. (US5612394).

17. Claim 1 requires a waterborne resin solution for preparing a resin-coated steel sheet for a fuel tank of an automobile comprising: a first resin solution selected from the group consisting of epoxy resin, urethane resin, and phenoxy resin; melamine resin; colloidal silica; PTFE-based wax; and a least one plate-type metallic powder selected from the group consisting of Al, Zn, Mn, Co, Ni, Sn, and SnO; wherein said waterborne resin solution is substantially free of surfactant and said first resin solution comprises the largest portion by weight of all of the other components individually.

18. With respect to the limitations of claim 1, Ogata et al. teaches a steel sheet for an automobile fuel tank, wherein the steel sheet has been coated with an organic resin film

that contains a metal powder (column, lines 30-45). This organic resin film comprises amine modified epoxy resins, including phenoxy resins, and epoxy resins (column 8, lines 38-50). The metal powder incorporated into the organic resin layer is in particulate or flake form, and is made of Ni, Al, Fe, or Cu (column 7, lines 1-5 and 18-20). Suitably, 30-110 parts by weight metal powder are added based on 100 parts by weight of the resin (column 7, lines 19-65).

19. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize 30 parts by weight based Ni flake based on 100 parts by weight of the resin as the particulate filler in Ogata, as Ogata recognizes the equivalence of flake type Ni to the other materials listed as suitable for this purpose.

20. In addition to the details set forth above, Ogata teaches that the organic resin layer that contains a metal pigment may contain an additive such as a lubricant (column 10, lines 10-14). Further, Ogata et al. teaches that a suitable lubricant for a resins containing hydroxy or amine functionality is polytetrafluoroethylene wax (column 12, lines 48-55). The amount of lubricant that is suitable for addition to a resin that has hydroxy or amine functionality is preferably 5-30 parts by weight based on 100 parts of the resin (column 12, lines 49-60).

21. Therefore it would have been obvious to one with ordinary skill in the art to add 5-30 parts by weight polytetrafluoroethylene wax to 100 parts by weight of the metal particulate containing organic resin layer taught by Ogata et al.

22. One would have been motivated to make such a modification so as to improve the lubricity of the metal particulate containing resin layer. One would have been

motivated to specifically select polytetrafluoroethylene based wax due to the fact that Ogata et al. teaches that this wax is suitable for improving the lubricity of resins containing hydroxy or amine functional groups, and the fact that the metal particle containing organic resin layer of Ogata is an amine modified epoxy of phenoxy, and thus possesses one or both of these functionalities.

23. The examiner acknowledges that the PTFE wax lubricant taught by Ogata is added to a different layer than the metal particulate containing organic resin layer. However, as Ogata clearly teaches that the metal particulate containing layer can contain a lubricant, and teaches that PTFE wax is a suitable lubricant for the same types of resins that make up the metal particulate containing layer, there is motivation to utilize PTFE wax in the metal particulate layer of Ogata et al.

24. However, Ogata fails to teach that the resin solution is waterborne, fails to teach adding melamine resin to the solution, and fails to teach adding colloidal silica into the solution, as required by claim 1.

25. Regarding the requirement of a waterborne resin solution. The examiner acknowledges that Ogata appears to teach only solvent-based resins as suitable for coating the fuel tank of an automobile. However, as can be seen from Odawa et al., the prior art recognizes that the use of organic solvents in the creation of rust inhibiting and corrosion resistant coatings present many logistical problems, including the creation of a hazardous workplace. As a result, water-based solutions for these same purposes are desirous, as they eliminate the need for the organic solvent. Typically, the hydrophilic

group content of the solvent-based polymer is increased so as to make the polymer water-soluble (column 2, lines 1-16).

26. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the epoxy or phenoxy resin utilized by Ogata to make the polymer water soluble, and to utilize a water based solution as opposed to a solvent based solution of these polymers.

27. One would have been motivated to do so in light of the teaching in Odawa that the use of solvent based polymer solutions result in the creation of a hazardous workplace, and can be avoided by modifying the hydrophilic group content on the polymer so as to make it water soluble.

28. The examiner acknowledges that Odawa teaches that modifying the hydrophilic content of a polymer decreases the corrosion resistance and water resistance of the polymer. However, one of ordinary skill in the art would recognize that benefits of eliminating the use of the organic solvent, and would view the reduction in corrosion resistance and water resistance vs. the increase safety of using water based solution as a trade off. Thus, one of ordinary skill in the art would have been motivated to modify the polymer solution utilized by Ogata to make it aqueous solvent based as opposed to organic solvent based.

29. However, Ogata as modified by Odawa above still fails to teach adding colloidal silica and melamine resin to the solution.

30. With respect to the requirement of colloidal silica, Suzuki et al. teaches that adding 1-40 parts by weight of colloidal silica to an organic resin such as a phenoxy improves the corrosion resistance of the resin (column 9, lines 55-65).

31. Therefore it would have been obvious to one with ordinary skill in the art to add 1-40 parts by weight colloidal silica as taught by Suzuki et al. to the metal particulate containing resin layer of Ogata as modified by Odawa

32. One would have been motivated to make such a modification due to the teaching in Ogata that the metal particulate containing resin could contain a filler, and the fact that Suzuki et al. teaches that adding colloidal silica to a phenoxy resin (similar to that of Ogata et al.) improves the corrosion resistance of the resin.

33. However, Ogata as modified by Odawa and Suzuki still fails to teach adding melamine resin to the solution, although Ogata does teach that amine modified epoxy/phenoxy resins are suitable resins for the metal particle containing organic resin layer (column 8, lines 50-67 of Ogata et al.) Further, it is noted that Suzuki et al. teaches that epoxy/phenoxy resins are preferably crosslinked in order to improve their corrosion resistance, and lists amines as suitable crosslinking agents (column 9, lines 45-55 of Suzuki et al.). However, neither Ogata et al. nor Suzuki et al. explicitly teach the use of melamine resin for this purpose, as required by claim 1.

34. However, Pfeil et al. teaches that epoxy resins that are cured with a curing agent such as melamine possess both chemical resistance and flexibility (column 1, lines 40-50).

35. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize melamine resin as the curing agent for the metal particulate containing organic resin of Ogata et al. as modified by Suzuki et al.

36. One would have been motivated to make this modification due to the fact that both Ogata et al. teach that amines are suitable for crosslinking the epoxies/phenoxy utilized in their respective inventions, and the fact that Pfeil et al. teaches that curing an epoxy with a melamine results in a film that is chemically resistant and flexible. Further, one would have been motivated to specifically select melamine as the curing agent as it is taught to be equivalent to the other curing agents listed as suitable.

37. Regarding the requirement in claim 1 requiring the first resin to comprise the largest portion by weight of all the other components individually. As set forth above, it has been established that it would have been obvious to one of ordinary skill in the art to add 5-30 parts by weight PTFE lubricant, 30 parts by weight Ni flake, and 1-40 parts by weight colloidal silica to the metal flake containing resin solution of Ogata. With respect to amount of melamine added to the resin solution, Ogata teaches that the amount of amine used to modify the phenoxy resin affects the resultant properties of the film. If the amount of amine added is too small, the resin will not have affinity for the metal powder, whereas if the amount of amine is too large, the corrosion resistance of the film will decrease as the excess amine will absorb water (column 9, lines 1-26 of Ogata et al.). Thus, the amount of melamine added to the resin of Ogata et al. as modified by Suzuki et al. and Pfeil et al. is a results effective variable.

38. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to change the amount of melamine resin added to the resin of Ogata et al. as modified by Suzuki et al. and Pfeil et al. in order to attain a desired balance between resin modification and corrosion resistance.

39. Thus, the limitation of claim 1 requiring the first resin solution to comprise the largest portion by weight of all the other components individually is met when less then 100 parts by weight of melamine is utilized based on 100 parts by weight of the metal particulate containing resin solution taught by Ogata.

40. Regarding the limitation in claim 1 requiring the solution to be substantially free of surfactant. The examiner takes the position that this limitation is met as set forth above, as none of the above cited references requires a surfactant or a dispersing agent.

41. Claim 2 requires the first resin solution to be a water-soluble phenoxy resin having a molecular weight between 25,000-50,000; 2-15 phr melamine resin based on the weight of the first resin solution; 10-20 phr colloidal silica based on the weight of the first resin solution, 2-10 parts by weight PTFE wax based on the weight of the first resin solution, and 5-70 parts by weight based on the weight of the first resin solution.

42. The limitation of claim 2 with respect to the requirements that the first resin be a water soluble phenoxy and the amount of metal powder are met as set forth above for claim 1. Regarding the molecular weight of the phenoxy resin, Ogata teaches that the molecular weight of the amine-modified phenoxy/epoxy has an effect on the resultant properties of the film. If the molecular weight of the amine-modified phenoxy/epoxy is too low, the film exhibits poor toughness, whereas if the molecular weight is too high,

the affinity between the metal powder and the resin is insufficient (column 9, lines 41-54). Thus, the examiner takes the position that the molecular weight of the amine modified epoxy/phenoxy resin is a results effective variable. Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to change the molecular weight of the phenoxy to achieve a desired balance between toughness of the film and affinity for the metal powder

43. Regarding the amount of lubricant required by claim 2, Ogata et al. teaches that the amount of lubricant that is suitable for addition to a resin that has a hydroxy or amine functionality is preferably 5-30 parts by weight based on 100 parts of the resin (column 12, lines 49-60).

44. Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to utilize 5 parts by weight of PTFE based wax as the lubricant in Ogata as modified by Odawa, Suzuki, and Pfeil.

45. One would have been motivated to make this modification due to the teaching in Ogata et al. that PTFE wax was a suitable lubricant for resins including a hydroxy or amine functionality, and that 5 parts by weight of this resin is preferably added to the resin to improve its lubricity.

46. Regarding the specific amount of melamine resin required by claim 2. The examiner maintains that it would have been obvious to one of ordinary skill in the art to modify the amount of melamine resin added to the phenoxy taught by Ogata as modified by Odawa, Suzuki, and Pfeil for the reasons set forth above for claim 1.

47. Regarding the specific amount of colloidal silica required by claim 2, Suzuki et al. teaches that if too much colloidal silica is added to the resin, the spot weldability of the resin to steel decreases (column 9, lines 55-66). Thus, the amount of colloidal silica in the resin film of Ogata as modified by Odawa, Suzuki and Pfeil is a results effective variable.

48. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to change the amount of colloidal silica added to the phenoxy resin utilized by Ogata as modified by Odawa, Suzuki and Pfeil in order to attain a desired balance between weldability of the resin and corrosion resistance.

49. Claim 3 requires the PTFE wax to have a particle size of 0.1-3μm. Ogata et al. teaches that the lubricant has a particle size in the range of 1-7μ (column 11, lines 40-45). As 1μm is completely encompassed in the applicants range, this limitation is met.

50. Claim 4 requires the metallic powder to have a length along its longest axis of 0.5-5μ. While none of Ogata, Odawa, Suzuki and Pfeil specifically teach this limitation, Ogata does teach that the long axis length of the metal flake impacts the properties of the solution. If the major axis length is too short, the area of the flake will be too small and the corrosion resistance will fall. If the major axis is too long, the particle will be too heavy and will precipitate out of solution (column 7, lines 35-60).

51. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to control the major axis of the metal flake utilized by Ogata as modified by Odawa, Suzuki, and Pfeil to a desired length so as to achieve a desired balance between dispersability of the flake and corrosion resistance.

52. Claim 5 requires a method for fabricating a resin coated steel sheet, wherein the resin solution of claim 2 is coated on a metal sheet and baked dry at 140-250^{0}C. The solution limitations of claim 5 are met as set forth above for claim 2 above. With respect to the method comprising coating the solution on a metal sheet and then drying it at 140-250^{0}C, Ogata et al. teaches that the metal particle containing organic compound is coated on the surface of the steel sheet and then dried by baking at temperatures below 200^0 C. As 200^0 C is completely encompassed in the range specified by the applicant in claim 5, this limitation is met.

53. Claim 6 requires the method of claim 5 to result in a coating having a dry coating thickness of 1-10μm. Ogata et al. teaches that the metal particulate containing organic layer is formed to a thickness between 2-10μm (column 10, lines 1-3). As 2μm is completely contained within the applicants range, this limitation is met.

54. Claim 7 is met as set forth above for claims 3 and 5.

55. Claim 8 is met as set forth above for claims 4 and 5.

56. Claim 9 is met as set forth above for claims 1, 4 and 6 above.

Double Patenting

57. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

58. Claims 1-9 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 15, 25, and 31 of U.S. Patent No. 6387538 (Lee et al.) in view of Ogata et al.

59. In the instant case, claims 15, 25, and 31 of Lee et al. teach all of the limitations of claims 1-9, except for the requirement of a 2-10 phr of PTFE based lubricant having a particle size in the range of 0.1-3μm.

60. However, Ogata et al. teaches that adding PTFE based wax having a particle size in the range of 1-7μm to a phenoxy resin improves the lubricity of the resin (column 11, lines 1-55 and column 14, lines 36-42). For this purpose, Ogata et al. teaches that 5-30 phr of the wax per the weight of the resin is suitable (column 12, lines 49-60).

61. Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to add 5-30 parts by weight of a PTFE based wax having a particle size in the range of 1-7μm as taught by Ogata et al. to the phenoxy resin coating solution of Lee et al.

62. One would have been motivated to make this modification due to the teaching in Ogata et al. that adding 5-30 phr PTFE based wax having a particle size between 1-7μ to resins that are similar or identical to those utilized by Lee et al. improves the lubricity of the resin layer. Further, one would have been motivated to make this modification as both the Ogata et al. patent and the Lee et al. patent are directed towards the same invention, that being a resin coated steel sheet for an automobile fuel tank.

63. Regarding the limitation in claims 2-4 and 9, wherein the applicant requires the phenoxy resin to be water-soluble. The examiner fully recognizes that in a double patenting rejection, the content of the specification of the conflicting patent should not be considered when applying the rejection, and that the rejection should be based only on the scope and breadth of the claims. Thus, the examiner has intentionally avoided reading into the specification of Lee et al. in order to establish this rejection. However, it has been established that the specification can always be used as a dictionary to learn the meaning of a term in a patent claim. In re Boylan, 392 F.2d 1017, 157 USPQ 370 (CCPA 1968). Further, those portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in the application defines an obvious variation of an invention claimed in the patent. In re Vogel, 422 F.2d 438, 441-42, 164 USPQ 619, 622 (CCPA 1970). Thus, in light of this case law, the examiner searched the specification of Lee et al. to clarify the scope of the phrase, "phenoxy resin solution," which is present in all of the claims in Lee et al. that are relevant to the instant double patenting rejection. It is particularly noted that in all of the examples of Lee et al., a phenoxy resin solution that is entitled "PKHW-35" is used, which is a phenoxy having a molecular weight of 50,000 and is in a "water diffusion" (see examples on columns 16-26, in particular column 18, lines 15-20). Thus, the examiner takes the position that when Lee et al. says "phenoxy resin solution" in the claims, he is referring to a phenoxy resin that is water-soluble.

64. Claims 1-2, 5-6 and 9 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 15, 25, and 31 of U.S. Patent No. 6387538 (Lee et al.) in view of Odawa et al.

65. In the instant case, claims 15, 25, and 31 of Lee et al. teach all of the limitations of claims 1-2, 5-6, and 9 s set forth above at sections 59 and 63 of this office action, except for the requirement of a 2-10 phr of PTFE based lubricant.

66. However, Odawa teaches the addition of 3-15 parts by weight (based on the total weight of the solution) of a lubricant such as PTFE to aqueous resin solutions improves the lubricity of the film formed by the dispersion (column 12, lines 46-57). The solution contains 10-80 parts by weight of a main resin solution, thus, 3-15 parts by weight of a lubricant based on the total weight of the solution corresponds to 6-30% by weight based on the content of the main resin.

67. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to add 6 parts by weight of a PTFE lubricant as taught by Odawa to the resin solution/film claimed by Lee.

68. One would have been motivated to make this modification in lieu of the teaching in Odawa that the lubricity of an aqueous polymer that is suitable for coating the fuel tanks of an automobile is improved by adding 6-30 parts by weight PTFE lubricant to the film based on the weight of the main resin in the film.

Response to Arguments

69. Applicant's arguments filed 5/30/03 have been fully considered but they are not persuasive. In the instant case, the applicant has argued on the record that Ogata

teaches solvent based resins, and thus does not meet applicant's claimed waterborne resin. This argument is met by the new rejection as set forth above, as it has now been established that one of ordinary skill in the art would have been motivated with a reasonable expectation of success to modify the solvent based polymers of Ogata to make them water based. Thus, this argument is not persuasive.

70. The applicant's arguments with respect to Pfeil are primarily directed towards the low molecular weight polymers utilized by Pfeil, which the applicant argues are far smaller then those utilized in the instant invention. This argument is largely irrelevant, as Pfeil was merely cited by the examiner to show the advantages of crosslinking epoxy/phenoxy resins with melamine. The examiner never made the argument that it would have been obvious to substitute the low molecular weight resins taught by Pfeil for the resins used in Ogata. Thus this argument is not persuasive.

71. With respect to the double patenting rejection, the applicant has argued that one of ordinary skill in the art would not have found it obvious and would not have been motivated to add the lubricants disclosed in Ogata into the water based phenoxy resin of US6387538. This argument is not persuasive. The addition of lubricants such as PTFE to either a water based resin or a solvent-based resin is well established in the art. This is proven by the disclosure of Ogata, which adds PTFE lubricants to solvent based resins, and Odawa, which teaches adding PTFE lubricants to water based resins. Thus one of ordinary skill in the art would have been motivated and would have found it obvious to add the lubricant taught by Ogata to the resin claimed by US6387538 with a reasonable expectation of success. Thus, this argument is not persuasive.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nikolas J. Uhlir whose telephone number is 703-305-0179. The examiner can normally be reached on Mon-Fri 7:30 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau can be reached on 703-308-2367. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-0389.

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Nju

Ramsey Zacharia
Primary Examiner
Tech Center 1700